

A NEW *STROBILOPS* (MOLLUSCA: PULMONATA:
STROBILOPSIDAE) FROM BAJA
CALIFORNIA SUR, MEXICO

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Abstract.—*Strobilops californica*, a new species of pulmonate land snail inhabiting the Sierra de la Victoria of Baja California Sur, Mexico, is described.

In December 1973, while searching in the high mountains of the Cape Region of Baja California, Mexico, for live specimens of *Rabdotus beldingi* (Cooper, 1892), we discovered a single dead shell of an unfamiliar species of small snail. We were successful in collecting living *R. beldingi* and other terrestrial mollusks but were unable to find additional specimens of the unknown small species. Subsequent examination by Alan Solem, Field Museum of Natural History, revealed that this unique shell is that of a species of *Strobilops*, a genus only sparsely distributed in western North America and not previously known to inhabit Baja California. Comparison with other west Mexican *Strobilops* demonstrated the Baja California form to be an undescribed species.

We collected this snail in the higher elevations of the Sierra de la Victoria, a region only rarely visited by malacologists; it is therefore unlikely that additional material of this new species will soon become available for study. While we are reluctant to describe a new species on the basis of a single specimen, we believe that the relative inaccessibility of the habitat of this species and the desirability of documenting its occurrence in Baja California justify such action at this time.

Strobilops californica, new species

Fig. 1

Description.—Shell large for genus, solid, trochiform, sharply carinate, much wider than high, finely and closely ribbed above periphery, with about 140 riblets on body whorl and 120 on penultimate whorl, convex and finely ribstriate below. It is widely umbilicate, the umbilicus contained about 3 times in diameter. Parietal callus thick, prominent where the strong parietal lamella joins it. No infraparietal or interparietal lamellae visible from the aperture, and none can be seen by transmitted light. Nearly a half whorl behind the aperture, a series of 4 basal folds can be detected by transmitted light. The innermost 3 are relatively short, subequal, parallel and equally

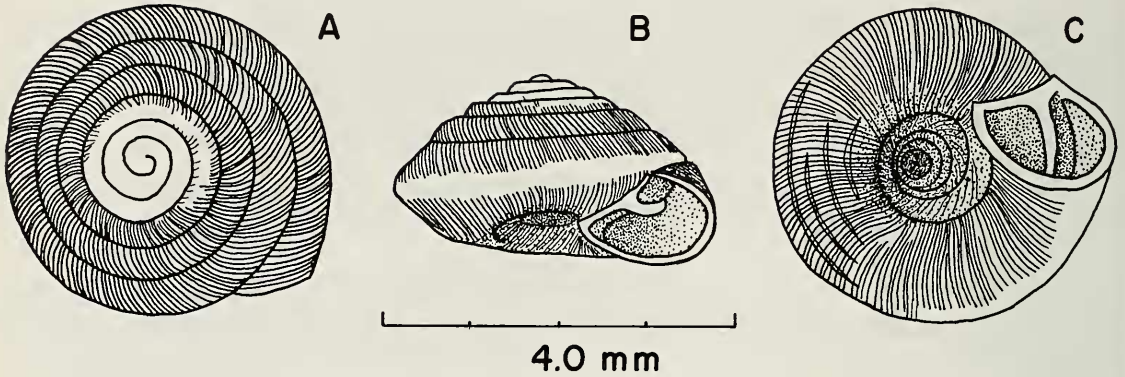


Fig. 1. Holotype of *Strobilops californica*, USNM 799595: A, Dorsal view; B, Side view; C, Umbilical view, with basal folds seen in transparency.

spaced, running for about one sixth of a whorl; the outer fold is longer, running for about one fourth of a whorl. Whorls $6\frac{1}{8}$, gradually increasing in size, first 2 worn and smooth, last descending abruptly to aperture. Aperture is rounded-lunate, peristome thick, only very slightly expanded.

Holotype.—USNM No. 799595; diameter 3.95 mm, height 1.85 mm, width of umbilicus 1.3 mm.

Type-locality.—La Laguna, Sierra de la Victoria, Baja California Sur, Mexico; along slope above creek immediately behind La Laguna shelter. Elevation ca. 6,500 ft., 31 December 1973, W. B. Miller and C. C. Christensen, collectors.

Taxonomy

The subgeneric classification of *Strobilops* was summarized by Pilsbry (1927–1935, and 1948). He recognized three subgenera, namely *Strobilops* Pilsbry, 1893, *Discostrobilops* Pilsbry, 1927, and *Enteroplax* Gude, 1899.

Zilch (1959) raised *Enteroplax* to generic rank, and Solem (1968) reviewed this genus in detail. Among the characteristics of *Enteroplax* delineated by Solem are the low conic shell, prominent radial ribs above threaded periphery and in umbilicus, sculpture absent on body whorl below periphery, strongly elevated edge of parietal callus which fuses with the upper parietal lamella, and the presence of 2 parietal lamellae. *Enteroplax* is currently known only from the Philippine Islands and New Guinea.

In the genus *Strobilops*, the subgenus *Discostrobilops* is strongly depressed, subdiscoidal, and widely umbilicate, while *Strobilops* s.s. has trochiform shells with a narrow to moderate umbilicus.

Although *S. californica* has many characters of *Enteroplax*, namely the low conic shell, the strongly elevated edge of the parietal callus, and a wide umbilicus, it does not have a threaded periphery and it does have a sculpture of fine radial striae on the body whorl below the periphery. Because of these

distinctions, we consider *S. californica* to belong properly in the genus *Strobilops*. However, it does not appear to fit perfectly in either of the described subgenera of *Strobilops*. Since we do not feel justified in describing a new subgenus on the basis of a single shell without anatomical data, we believe that subgeneric classification should be deferred until additional specimens, including anatomies, can be obtained.

Differential Diagnosis

Other species of *Strobilops* inhabiting western Mexico are found on Socorro Island about 400 km southwest of the southern tip of Baja California, and, presumably, in Sinaloa.

The species presumed from Sinaloa, *Strobilops sinaloa* Morrison, 1953, was described from material found by U.S. Department of Agriculture inspectors on a shipment of plants said to have originated in Sinaloa, Mexico. It is a *Disco**strobilops* and has the depressed shell of that subgenus.

Specimens of *Strobilops* from Socorro, one of the Revillagigedo Islands, have been cited in print under three names. Dall (1926) identified specimens from a single locality (CAS Loc. 24,782) as *S. labyrinthica* (Say) and *S. strebeli* (Pfeiffer). Pilsbry (1927–1935) described material from the same Socorro locality as *S. hannai*, stating that this was the species identified by Dall as *S. labyrinthica* and that Dall's *S. strebeli* was probably also this species. We have examined the holotype of *S. hannai* in the collection of the Academy of Natural Sciences of Philadelphia (ANSP 256587a) and the Socorro Island specimens in the California Academy of Sciences collection identified by Dall as *S. labyrinthica* and *S. strebeli*. We found that the two specimens identified as *S. labyrinthica* were unquestionably that species; the two specimens identified as *S. strebeli*, however, were more widely umbilicate and more depressed than typical *S. strebeli* and are probably *S. hannai*, as Pilsbry suggested. Unfortunately, we did not have the holotype of *S. hannai* at the same time that we were examining Dall's specimens so that a direct comparison could not be made. Nevertheless, it was immediately obvious that Dall's "*S. strebeli*" from the CAS and Pilsbry's *S. hannai* from the ANSP were both only about two-thirds the diameter of *S. californica*; they were also more coarsely ribbed and narrowly umbilicate.

Discussion

At the type-locality the vegetation consisted primarily of oaks (*Quercus devia* and *Q. tuberculata*) and piñon pines (*Pinus cembroides*). We found many live specimens of *R. beldingi* as well as many shells of *R. levis* (Dall, 1893), *R. montezuma* (Dall, 1893), *Pseudosubulina eiseniana* (Cooper, 1893), *Glyphyalinia* cf. *paucilirata* (Morelet, 1851), and live animals of *Deroceras* cf. *laeve* (Müller, 1774). This faunal association of the high oak-pine

forest was understandably different from the lower desert communities of Baja California (Christensen, 1979).

The significance of finding *S. californica* in that locality, however, was not apparent to us at the time as we did not recognize it in the field as a *Strobilops* and because we were intent on finding *R. beldingi*. Our failure to find additional specimens of *S. californica* was due to our concentration of collecting effort in the vicinity of rock outcrops (typical *Rabdotus* habitat) rather than under fallen logs and leaf mold, where *Strobilops* would be more likely to occur.

The single specimen of *S. californica* is an adult shell, solid, and recent, as indicated by fresh periostracum in the umbilicus and on the base of the body whorl.

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